IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. – 3. (Canceled)

4. (Currently Amended) A ~~steel~~ connecting member utilized for having joined surfaces of first and second ~~steel~~ members overlapped each other and fixing said first and second ~~steel~~ members with a pressure by ~~a~~ the connecting member passing through connecting holes ~~drilled in~~through said first and second members, ~~so as~~ to join said first and second ~~steel~~ members, comprising:

a slip-proof surface having corresponding concentric recessed and projected parts each composed of a mountain-shaped portion and a valley-shaped portion having a corresponding radius of ~~curvature,~~curvature on a joined surface, ~~which is formed by rolling dies having a rolling edge that has one or plural concentric edge parts on a conical incline each having a radius of curvature in a state where said conical incline is contacted to said joined surface in a direction perpendicular to said joined surface of said steel member and pressed by a prescribed pressure,~~

~~whereby a change of the radius of curvature of the edge parts from the inner edge to the outer edge thereof is preselected to a change of the radius of curvature of the corresponding concentric recessed and projected parts, and said joined surface is non-bent or non-curved to form said slip-proof surface~~

wherein the valley-shaped portion forms a groove continuous along the radius of curvature.

5. – 6. (Canceled)

7. (Currently Amended) ~~Steel~~ Mated members comprising:

first and second ~~steel~~ members ~~to be~~ mutually joined by having respective first and second joined surfaces thereof ~~mutually~~ overlapped and ~~to be~~ fixed with a pressure by a connecting member passing through first and second connecting holes ~~drilled in~~ through said first and second ~~steel~~ members respectively, ~~and~~

wherein ~~with respect to the joined surface of~~ said first ~~steel~~ member~~, before joining with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first conical incline each composed of a mountain-shaped portion and a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge,~~ includes a first slip-proof surface having ~~corresponding concentric recessed and projected parts composed of~~ concentric mountain-shaped portions and grooved portions ~~is~~ having a radius of curvature formed around said connecting holes of said first ~~steel~~ member ~~by rolling said first conical incline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes~~;

~~with respect to the joined surface of~~ wherein said second ~~steel~~ member~~, before joining, with second rolling dies having a rolling edge that has on one or plural concentric edge parts on a second conical incline each composed of a valley-shaped portion alternating with said mountain-shaped portion of said first rolling dies and a mountain-shaped portion alternating with said valley-shaped portion of said first rolling dies, having said radius of curvature, and extending from an inner edge to an outer edge,~~ includes a second slip-proof surface having corresponding

concentric projected and recessed parts composed of concentric grooved portions having a radius of curvature and mountain-shaped portions ~~is~~ formed around said connecting holes of said second ~~steel~~ member ~~by rolling said second conical incline of said second rolling dies along with the locus of the concentric circle focusing said connecting holes~~;

wherein the grooved portions of the first and second slip-proof surfaces form a groove continuous along the radius of curvature,

when joining, said first and second ~~steel~~ members are joined with said first and second slip-proof surfaces ~~overlapped~~ overlapped, wherein said mountain-shaped portions ~~of said concentric recessed and projected parts~~ of said first slip-proof surface is matingly fitted with said grooved portions ~~of said concentric recessed and projected parts~~ of said second slip-proof surface, and said grooved portions ~~of said concentric recessed and projected parts~~ of said first slip-proof surface is matingly fitted with said mountain-shaped portions ~~of said concentric recessed and projected parts~~ of said second slip-proof surface~~; and~~

~~said first and second steel members are non-bent or non-curved to form said first and second slip-proof surfaces~~.

8. (Currently Amended) ~~Steel~~ Mated members comprising:

first and second ~~steel~~ members ~~to be~~ mutually joined by having respective first and second joined surfaces thereof ~~mutually~~ overlapped and then fixed with a pressure by a connecting member passing through first and second connecting holes ~~drilled in~~ through said first and second ~~steel~~ members respectively, ~~and~~

wherein ~~with respect to the joined surface of~~ said first ~~steel~~ member~~, before joining with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first~~

~~conical incline each composed of a mountain-shaped portion and a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge,~~ includes a first slip-proof surface having ~~corresponding concentric recessed and projected parts composed of~~ concentric mountain-shaped portions ~~is~~ having a radius of curvature formed around said connecting holes of said first ~~steel~~ member ~~by rolling said first conical incline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes~~;

wherein the grooved portions of the first slip-proof surface forms a groove continuous along the radius of curvature,

when joining, said first and second ~~steel~~ members are joined with said concentric mountain-shaped portions ~~of said concentric recessed and projected parts~~ of said first slip-proof surface of said first ~~steel~~ member ~~being~~ embedded in a joined surface of said second ~~steel~~ member according to the pressure strength of said connecting member~~; and~~

~~said first and second steel members are non-bent or non-curved to form said first and second slip-proof surfaces~~.

9. - 10. (Canceled)

11. (Currently Amended) ~~Steel~~ Mated members comprising:

first and second ~~steel~~ members ~~to be mutually~~ overlapped and joined, ~~wherein:~~having first and second connecting holes ~~are drilled in the top end~~ where said first and second ~~steel~~ members are ~~mutually~~ overlapped ~~so as~~ to pass completely through said first and second ~~steel~~ members; and

a connecting member passing through the first and second connecting holes,

~~with respect to the joined surface of~~ wherein said first ~~steel~~ member~~, with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first conical incline each composed of a mountain-shaped portion a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge,~~ includes a first slip-proof surface having ~~corresponding concentric recessed and projected parts composed of~~ concentric mountain-shaped portions and grooved portions ~~is~~ having a radius of curvature formed around said connecting holes of said first ~~steel~~ member ~~by rolling said first conical inline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes~~;

~~with respect to the joined surface of~~ wherein said second ~~steel~~ member~~, with second rolling dies having a rolling edge that has on one or plural concentric edge parts on a second conical incline each composed of a valley-shaped portion alternating with said mountain-shaped portion of said first rolling dies and a mountain-shaped portion alternating with said valley-shaped portion of said first rolling dies, having said radius of curvature, and extending from an inner edge to an outer edge,~~ includes a second slip-proof surface having ~~corresponding concentric projected and recessed parts composed of~~ concentric grooved portions having a radius of curvature and ~~mounting~~ mountain-shaped portions ~~is~~ formed around said connecting holes of said second ~~steel~~ member ~~by rolling said second conical incline of said second rolling dies along with the locus of the concentric circle focusing said connecting holes~~;

wherein the grooved portions of the first and second slip-proof surfaces form a groove continuous along the radius of curvature,

~~wherein:~~ wherein, when said first and second ~~steel~~ members are clamped by said connecting member ~~passing through said first and second connecting holes~~, said first and second

~~steel~~ members are fixed by clamping ~~in the thickness direction~~ by said connecting member ~~passing through said first and second connecting holes of said first and second steel members~~ with said first and second slip-proof surfaces overlapped wherein said mountain-shaped portions ~~of said concentric recessed and projected parts~~ of said first slip-proof surface ~~is~~ are matingly fitted with said grooved portions ~~of said concentric recessed and projected parts~~ of said second slip-proof surface, and said grooved portions ~~of said concentric recessed and projected parts~~ of said first slip-proof surface ~~is~~ are matingly fitted with said mountain-shaped portions ~~of said concentric recessed and projected parts~~ of said second slip-proof surface~~; and~~

~~said first and second steel members are non-bent or non-curved to form said first and second slip-proof surfaces~~.

12. - 16. (Canceled)

17. (New) Mated parts comprising:

a first member having a valley-shaped portion forming a continuous curve therein;

a second member overlapping the first member and having a mountain-shaped portion forming a continuous curve formed thereon and matable with the valley-shaped portion; and

a connecting member holding the first and second members in a mated position.

18. (New) The mated parts of claim 17, wherein the first and second members each have a respective through hole that align with one another when the mountain-shaped portion and the valley-shaped portion are mated.

19. (New) The mated parts of claim 18,

wherein the first member has a plurality of concentric valley-shaped portions each forming a continuous curve therein, and

wherein the second member has a plurality of concentric mountain-shaped portions each forming a continuous curve formed thereon and matable with the valley-shaped portions.

20. (New) The mated parts of claim 19, wherein the plurality of valley shaped portions and mountain-shaped portions are concentric about the respective through holes.

21. (New) The mated parts according to claim 18, wherein the connecting member is passed through the aligned through holes in the first and second members and applies a pressure to urge the mountain-shaped portions into the valley-shaped portions.